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(1)(i) Assess the source of liquids and amounts of liquids by source,

(ii) Conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and

(iii) Assess the seriousness of any leaks in terms of potential for escaping into the environment; or

(2) Document why such assessments are not needed.

[57 FR 3494, Jan. 29, 1992, as amended at 71 FR 16911, Apr. 4, 2006; 71 FR 40275, July 14, 2006]

§ 265.260 Monitoring and inspection.

An owner or operator required to have a leak detection system under § 265.254 must record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

[57 FR 3494, Jan. 29, 1992]

Subpart M—Land Treatment

§ 265.270 Applicability.

The regulations in this subpart apply to owners and operators of hazardous waste land treatment facilities, except as § 265.1 provides otherwise.

§ 265.271 [Reserved]

§ 265.272 General operating requirements.

(a) Hazardous waste must not be placed in or on a land treatment facility unless the waste can be made less hazardous or nonhazardous by degradation, transformation, or immobilization processes occurring in or on the soil.

(b) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portions of the facility during peak discharge from at least a 25-year storm.

(c) The owner or operator must design, construct, operate, and maintain a run-off management system capable of collecting and controlling a water volume at least equivalent to a 24-hour, 25-year storm.

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(d) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(e) If the treatment zone contains particulate matter which may be subject to wind dispersal, the owner or operator must manage the unit to control wind dispersal.

[45 FR 33232, May 19, 1980, as amended at 47 FR 32368, July 26, 1982; 50 FR 16048, Apr. 23, 1985]

§ 265.273 Waste analysis.

In addition to the waste analyses required by § 265.13, before placing a hazardous waste in or on a land treatment facility, the owner or operator must:

(a) Determine the concentrations in the waste of any substances which equal or exceed the maximum concentrations contained in Table 1 of § 261.24 of this chapter that cause a waste to exhibit the Toxicity Characteristic;

(b) For any waste listed in part 261, subpart D, of this chapter, determine the concentrations of any substances which caused the waste to be listed as a hazardous waste; and

(c) If food chain crops are grown, determine the concentrations in the waste of each of the following constituents: arsenic, cadmium, lead, and mercury, *unless* the owner or operator has written, documented data that show that the constituent is not present.

[*Comment:* Part 261 of this chapter specifies the substances for which a waste is listed as a hazardous waste. As required by § 265.13, the waste analysis plan must include analyses needed to comply with §§ 265.281 and 265.282. As required by § 265.73, the owner or operator must place the results from each waste analysis, or the documented information, in the operating record of the facility.]

[45 FR 33232, May 19, 1980, as amended at 55 FR 11876, Mar. 29, 1990]

§§ 265.274–265.275 [Reserved]

§ 265.276 Food chain crops.

(a) An owner or operator of a hazardous waste land treatment facility on which food chain crops are being grown, or have been grown and will be grown in the future, must notify the

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Regional Administrator within 60 days after the effective date of this part.

[*Comment:* The growth of food chain crops at a facility which has never before been used for this purpose is a significant change in process under §122.72(c) of this chapter. Owners or operators of such land treatment facilities who propose to grow food chain crops after the effective date of this part must comply with §122.72(c) of this chapter.]

(b)(1) Food chain crops must not be grown on the treated area of a hazardous waste land treatment facility unless the owner or operator can demonstrate, based on field testing, that any arsenic, lead, mercury, or other constituents identified under § 265.273(b):

(i) Will not be transferred to the food portion of the crop by plant uptake or direct contact, and will not otherwise be ingested by food chain animals (e.g., by grazing); or

(ii) Will not occur in greater concentrations in the crops grown on the land treatment facility than in the same crops grown on untreated soils under similar conditions in the same region.

(2) The information necessary to make the demonstration required by paragraph (b)(1) of this section must be kept at the facility and must, at a minimum:

(i) Be based on tests for the specific waste and application rates being used at the facility; and

(ii) Include descriptions of crop and soil characteristics, sample selection criteria, sample size determination, analytical methods, and statistical procedures.

(c) Food chain crops must not be grown on a land treatment facility receiving waste that contains cadmium unless all requirements of paragraphs (c)(1) (i) through (iii) of this section or all requirements of paragraphs (c)(2) (i) through (iv) of this section are met.

(1)(i) The pH of the waste and soil mixture is 6.5 or greater at the time of each waste application, except for waste containing cadmium at concentrations of 2 mg/kg (dry weight) or less;

(ii) The annual application of cadmium from waste does not exceed 0.5 kilograms per hectare (kg/ha) on land used for production of tobacco, leafy

vegetables, or root crops grown for human consumption. For other food chain crops, the annual cadmium application rate does not exceed:

Time period	Annual Cd application rate (kg/ha)
Present to June 30, 1984	2.0
July 1, 1984 to December 31, 1986	1.25
Beginning January 1, 1987	0.5

(iii) The cumulative application of cadmium from waste does not exceed the levels in either paragraph (c)(1)(iii)(A) or (B) of this section.

(A)

Soil cation exchange capacity (meq/100g)	Maximum cumulative application (kg/ha)	
	Back-ground soil pH less than 6.5	Back-ground soil pH greater than 6.5
Less than 5	5	5
5 to 15	5	10
Greater than 15	5	20

(B) For soils with a background pH of less than 6.5, the cumulative cadmium application rate does not exceed the levels below: *Provided*, that the pH of the waste and soil mixture is adjusted to and maintained at 6.5 or greater whenever food chain crops are grown.

Soil cation exchange capacity (meq/100g)	Maximum cumulative application (kg/ha)
Less than 5	5
5 to 15	10
Greater than 15	20

(2)(i) The only food chain crop produced is animal feed.

(ii) The pH of the waste and soil mixture is 6.5 or greater at the time of waste application or at the time the crop is planted, whichever occurs later, and this pH level is maintained whenever food chain crops are grown.

(iii) There is a facility operating plan which demonstrates how the animal feed will be distributed to preclude ingestion by humans. The facility operating plan describes the measures to be taken to safeguard against possible health hazards from cadmium entering the food chain, which may result from alternative land uses.

(iv) Future property owners are notified by a stipulation in the land record

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or property deed which states that the property has received waste at high cadmium application rates and that food chain crops must not be grown except in compliance with paragraph (c)(2) of this section.

[*Comment:* As required by § 265.73, if an owner or operator grows food chain crops on his land treatment facility, he must place the information developed in this section in the operating record of the facility.]

[45 FR 33232, May 19, 1980, as amended at 47 FR 32368, July 26, 1982; 48 FR 14295, Apr. 1, 1983]

§ 265.277 [Reserved]

§ 265.278 Unsaturated zone (zone of aeration) monitoring.

(a) The owner or operator must have in writing, and must implement, an unsaturated zone monitoring plan which is designed to:

(1) Detect the vertical migration of hazardous waste and hazardous waste constituents under the active portion of the land treatment facility, and

(2) Provide information on the background concentrations of the hazardous waste and hazardous waste constituents in similar but untreated soils nearby; this background monitoring must be conducted before or in conjunction with the monitoring required under paragraph (a)(1) of this section.

(b) The unsaturated zone monitoring plan must include, at a minimum:

(1) Soil monitoring using soil cores, and

(2) Soil-pore water monitoring using devices such as lysimeters.

(c) To comply with paragraph (a)(1) of this section, the owner or operator must demonstrate in his unsaturated zone monitoring plan that:

(1) The depth at which soil and soil-pore water samples are to be taken is below the depth to which the waste is incorporated into the soil;

(2) The number of soil and soil-pore water samples to be taken is based on the variability of:

(i) The hazardous waste constituents (as identified in § 265.273(a) and (b)) in the waste and in the soil; and

(ii) The soil type(s); and

(3) The frequency and timing of soil and soil-pore water sampling is based on the frequency, time, and rate of

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waste application, proximity to ground water, and soil permeability.

(d) The owner or operator must keep at the facility his unsaturated zone monitoring plan, and the rationale used in developing this plan.

(e) The owner or operator must analyze the soil and soil-pore water samples for the hazardous waste constituents that were found in the waste during the waste analysis under § 265.273 (a) and (b).

[*Comment:* As required by § 265.73, all data and information developed by the owner or operator under this section must be placed in the operating record of the facility.]

§ 265.279 Recordkeeping.

The owner or operator must include hazardous waste application dates and rates in the operating record required under § 265.73.

[47 FR 32368, July 26, 1982]

§ 265.280 Closure and post-closure.

(a) In the closure plan under § 265.112 and the post-closure plan under § 265.118, the owner or operator must address the following objectives and indicate how they will be achieved:

(1) Control of the migration of hazardous waste and hazardous waste constituents from the treated area into the ground water;

(2) Control of the release of contaminated run-off from the facility into surface water;

(3) Control of the release of airborne particulate contaminants caused by wind erosion; and

(4) Compliance with § 265.276 concerning the growth of food-chain crops.

(b) The owner or operator must consider at least the following factors in addressing the closure and post-closure care objectives of paragraph (a) of this section:

(1) Type and amount of hazardous waste and hazardous waste constituents applied to the land treatment facility;

(2) The mobility and the expected rate of migration of the hazardous waste and hazardous waste constituents;

(3) Site location, topography, and surrounding land use, with respect to the potential effects of pollutant migration (e.g., proximity to ground